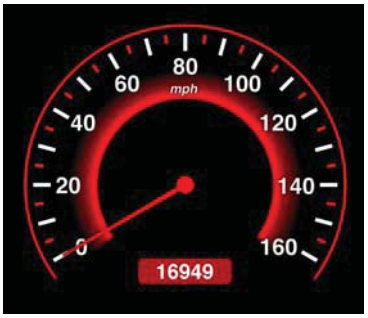

ISO/IATF 16949:2016

Core Tools for the Automotive Sector

Instructor's Guide

Introduction to the Core Tools

The intent of this section is only to provide a brief introduction to the Core Tools. The Core Tools include: Advanced Product Quality Planning (APQP), Statistical Process Control (SPC), Measurement System Analysis (MSA), Failure Modes & Effects Analysis (FMEA) and Production Part Approval Process. Based on the volume of knowledge required to understand and apply, along with customer specific requirements, we recommend that you take specific and relevant **Core Tool Courses.**

16949 Store Core tools (http://16949store.com/16949-core-tools-Training.aspx)

- FMEA
- MSA
- SPC
- APQP
- 8D Problem solving – this is often recommended – especially with Ford.

A quiz at the end is geared towards internal auditing and includes short answers and true and false questions.

The Core Tools provide significant requirements to your organization. Therefore, it is quite important for your Internal Audit team to have a sound understanding of the Core Tools. We recommend that you also provide some time for Question & Answer sessions regarding specific Core Tool scenarios within your organization to help gage participant's knowledge and understand.

Note: the quiz provided is not a quiz to examine their competency of the Core Tools, it is just intended to provide a screening of introductory knowledge of the Core Tools and should not be used as a basis to evaluate competency.

Course Overview

- Five Core Tools Review (2hrs, 30 min)
  - **APQP, FMEA, MSA, SPC, PPAP**
- One Quiz (30 min)
- One Break (15 min)

Total Course Time: 3 hrs, 15

⇒ ***Based on the volume of knowledge required to understand and apply, along with customer specific requirements, we recommend that you take specific and relevant Core Tools training.***

Chapter 1 – APQP

Objectives: **Brief overview of Advanced Product Quality Planning**

- Application of APQP
- Stages of APQP
- How does APQP links to the Standard?
- Benefits of APQP

Chapter 2– FMEA

Objectives: **Brief overview of Failure Mode & Effects Analysis**

- Design FMEA
- Process FMEA
- Keys to Success
- How does FMEA link to the Standard?

Chapter 3– MSA

Objectives: **Brief overview of Measurement Systems Analysis**

- What is a Measurement System?
- Application of MSA
- What is measurement uncertainty?
- How do I implement a good Measurement System?

Chapter 4– SPC

Objectives: **Brief overview of Statistical Process Control**

- What is variation?
- What is stability?
- What are causes of variation?
- Capability vs. Stability
- What are some tools?
- How does SPC link to the Standard?

Chapter 5– PPAP

Objectives: **Brief overview of Production Part Approval Process**

- What is PPAP?
- What is the purpose of PPAP?
- When is PPAP required?
- Notification?
- Submission?

Output: ***Quiz (30 minutes)***

Intro to the Core Tools

APQP FMEA MSA SPC PPAP

Course Overview

- Five Core Tools Review (2hrs, 30 min)
  - APQP, FMEA, MSA, SPC, PPAP
- One Quiz (30 min)
- One Relief (15 min)

Total Course Time: 3 hrs, 15 min

Course Schedule

Intro to the Core Tools	Start Time	Completion Time	Begins at Slide #	Section Time	Net time (min)
Chapter 1: Advanced Product Quality Planning			4	30	30
Chapter 2: Failure Mode & Effects Analysis			12	30	60
Chapter 3: Measurement Systems & Analysis			18	30	90
Relief				15	105
Chapter 4: Statistical Process Control			29	30	135
Chapter 5: Production Part Approval Process			40	30	165
Quiz			51	30	195